Causes of Blindness in Louisiana

H. F. Brewster

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CAUSES OF BLINDNESS IN LOUISIANA

A REVIEW OF SEVEN HUNDRED CASES*

H. F. BREWSTER, M. D.
NEW ORLEANS

Reprinted from
New Orleans Medical and Surgical Journal
pp. 166-173, *Vol.* 91, *No.* 4, *October*, 1938

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A REVIEW OF SEVEN HUNDRED CASES*

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In this review, a person is considered industrially blind who has vision in the better eye with correcting glass of 20/200 or less or a disqualifying visual field defect. Also, this group includes only indigent persons between the ages of 16 and 64 who are residents of this state and which group is defined and provided for by the cooperating Federal and State Social Security Act. About a year ago this study was initiated and carried on by the cooperative efforts of the Federal and State governments through the direct supervision of the Louisiana State Department of Public Welfare. The primary object of this study was to provide necessary relief to the indigent blind coming in this special classification. The survey is still in progress and the total number of cases in this category will far exceed this present number. It is also necessary to stress the fact that this number and survey does not include innumerable blind people falling into other age

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*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society on May 3, 1938 at New Orleans.

and economic groups. While the immediate objective of this work has been to provide relief for people badly in need of help, its ultimate goal should and must be so effectively to prevent blindness in all classifications that expenditures for these unfortunates can be gradually reduced to a minimum.

To contribute to the usefulness and effectiveness of statistical data on blindness accumulating in our nation, I have used the etiologic and topographic classification of the Causes of Blindness adopted by the American Society for the Prevention of Blindness and by the American Academy of Ophthalmology and Otolaryngology. While such a classification is useful, is a step forward and should be generally adopted, it does not provide the flexibility necessary to convey the full story in all cases of blindness. In the great majority of cases the cause of blindness is multiple and often far-reaching, there being in some instances five or six contributing factors, each doing its share of destruction. Also, I would stress that at times the causes of blindness in one eye are very different from the causes in the other eye and, therefore, should be classified differently. The statistical data collected from this first seven hundred cases will now be stated. I estimate that 73 per cent of these blind cases could be prevented.

CAUSES OF BLINDNESS

Topographic and Etiologic

Hypertension (glaucoma)		76
Refractive errors		13
Myopia:		
Due to syphilis	1	
Toxic poisonings (not specified)	1	
Congenital	7	
Not specified	4	
Motor anomalies		
Development anomalies		17
Albinism (congenital)	2	
Anophthalmos (congenital)	1	
Megalophthalmos (congenital)	2	
Microphthalmos (congenital)	12	
Degenerative changes		46
Phthisis bulbi	29	
Gonorrhea	10	
Meningitis	2	
Syphilis	4	
Pneumococcal ulcer	1	
Gunshot wounds	6	
Fireworks	1	
Etiology undetermined	5	
Other degenerative changes (specified)	4	
Gunshot wounds	3	
Consanguinity	1	
Panophthalmitis and endophthalmitis	13	
Gonorrhea	3	
Typhoid	1	
Fireworks	1	
Trauma	4	

Industrial injuries		2	
Diseased tonsils		1	
Etiology undetermined		1	
Conjunctiva			2
Pterygium		2	
Cornea			106
Interstitial keratitis (syphilis)		9	
Phlyctenular keratitis		1	
Keratitis		23	
Meningitis	1		
Smallpox	1		
Syphilis	3		
Tuberculosis	1		
Trauma	4		
Toxic poisoning (gallbladder)	1		
Toxic poisoning (not specified)	6		
Systemic diseases (not specified)	2		
Etiology undetermined	4		
Ulcerative keratitis (corneal ulcers)		62	
Gonorrhea	16		
Measles	1		
Meningitis	1		
Ophthalmia neonatorum			
Gonorrhea	26		
Other	1	27	
Scarlet fever	1		
Smallpox	3		
Syphilis	1		
Typhoid fever	2		
Fireworks	1		
Trauma	5		
Exophthalmic goiter	1		
Pellagra	2		
Vascular disease	1		
Pannus		11	
Trachoma	11		

Iris and ciliary body		97
Iridocyclitis (uveitis)	85	
Measles	1	
Meningitis	1	
Scarlet fever	1	
Smallpox	1	
Syphilis	20	
Tuberculosis	20	
Typhoid fever	4	
Gunshot wounds	11	
Fireworks	3	
Injuries (not specified)	1	
Sinuses	2	
Teeth	2	
Toxic poisonings (not specified)	10	
Faulty diet	2	
Diabetes	1	
Nephritis	1	
Etiology undetermined	23	
Sympathetic ophthalmia	12	
Gunshot wounds	2	
Trauma (specified)	5	
Injuries (not specified)	5	
Crystalline lens		109
Lens opacity (cataract)	108	
Congenital	35	
Juvenile	12	
Senile	30	
Hereditary	7	
Traumatic	10	
Diabetic	5	
Secondary to other diseases	9	
Dislocated lens (hereditary)	1	
Choroid and retina		74
Choroiditis	9	
Syphilis	3	

Hereditary origin	3	
Etiology undetermined	3	
Retinitis		2
Diabetes	1	
Etiology undetermined	1	
Chorioretinitis		28
Syphilis	4	
Tuberculosis	1	
Gunshot wounds	1	
Toxic poisonings (not specified)	1	
Diabetes	1	
Nephritis	1	
Congenital origin	3	
Hereditary origin	3	
Consanguinity	1	
Etiology undetermined	12	
Detached retina		5
Syphilis	1	
Typhoid fever	1	
Trauma (specified)	1	
Injuries (not specified)	1	
Etiology undetermined	1	
Retinitis pigmentosa		30
Hereditary origin	9	
Consanguinity	11	
Not specified	6	
Etiology undetermined	4	
Optic nerve		158
Optic atrophy	150	
Meningitis	6	
Smallpox	1	
Syphilis	58	
Typhoid fever	4	
Infections (not specified)	5	

Influenza	1	
Encephalitis	1	
Trauma (specified)	5	
Injuries (not specified)	1	
Sinusitis	5	
Carious teeth	2	
Toxic poisonings (specified)		
Malaria—quinine	5	
Toxic poisonings (not specified)	3	
Neoplasms		
Brain abscess	1	
Tumors	5	6
Diabetes	2	
Vascular disease	5	
Non-infectious disease, central nervous system	1	
Diseases of pregnancy and childbirth	1	
Systemic diseases (not specified)	4	
Congenital origin	6	
Hereditary origin	5	
Consanguinity	1	
Etiology undetermined	21	
Multiple sclerosis	1	
Optic neuritis		3
Toxic poisoning (teeth)	2	
Banti's disease	1	
Neuroretinitis		5
Syphilis	2	
Toxic poisoning (teeth)	1	
Nephritis	1	
Etiology undetermined	1	
Miscellaneous and ill-defined		2
Pemphigus	1	
Trichiasis	1	

ETIOLOGIC FACTORS IN BLINDNESS

	No. of Cases	Percentage
Pterygium, pemphigus, trichiasis	4	
Glaucoma	76	10.9
Gonorrhea (excluding O. N.)	29	4.1
Measles	2	
Meningitis	11	1.6
Ophthalmia neonatorum	27	3.9
Scarlet fever	2	
Smallpox	6	
Syphilis	106	15.1
Trachoma	11	1.6
Tuberculosis	3	
Typhoid fever	12	1.7
Pneumococcal ulcer	1	
Influenza	1	
Encephalitis	1	
Infections (not specified)	5	
Gunshot wounds	23	3.3
Fireworks	6	
Non-industrial injuries	1	
Trauma (including burns), (specified)	34	4.9
Industrial injuries, (not specified)	2	
Injuries, (not specified)	8	1.1
Sinuses	7	1.0
Tonsils	1	
Teeth	7	1.0
Banti's disease	1	
Malaria-quinine	5	
Gallbladder	1	
Toxic poisonings, (not specified)	21	3.0
Neoplasms	6	
Brain abscess	1	
Brain tumor	5	
Senility	30	4.3
Toxic goiter	1	
Faulty diet	2	
Pellagra	2	

Anemia	1	
Diabetes	10	1.4
Nephritis	3	
Vascular diseases	6	
Non-infectious diseases, central nervous system	1	
Diseases of pregnancy and childbirth	1	
Systemic diseases, (not specified)	6	
Cataracts, secondary to other diseases	9	1.3
Cataracts, juvenile	12	1.7
Eye diseases of congenital origin	68	9.9
Eye diseases of hereditary origin	28	4.0
Eye diseases due to consanguinity	14	2.0
Not specified	10	1.4
Etiology undetermined or not specified	75	10.6
Multiple sclerosis	1	
	700	89.8
Cases responsible for 1% or more	89.8	
Cases responsible for less than 1% (73)	10.2	100%

AGE AT ONSET OF BLINDNESS

Birth to 5 years	141
6 years to 15 years	62
16 years to 25 years	83
26 years to 35 years	118
36 years to 45 years	121
46 years to 65 years	175
	700

PERCENTAGE ACCORDING TO TOPOGRAPHY

	Cases	Per cent
Glaucoma	76	10.8
Phthisis bulbi	29	4.1
Corneal ulcers	62	8.9
Iridocyclitis	85	12.2

Cataracts	109	15.4
Chorioretinitis	28	4.0
Retinitis pigmentosa	30	4.3
Optic atrophy	150	21.3
All other diagnoses	131	19.0
	700	100.0

DEGREE OF VISUAL ACUITY

Group I.	No light preception	311
Group II.	Only light preception	175
Group III.	Hand motion	43
Group IV.	Finger count	114
Group V.	20/200	45
Group VI.	20/200 but with field constriction	12
		700

CASES OF CONGENITAL SYPHILIS

1. Choroiditis, blind from infancy.
2. Interstitial keratitis, blind from birth.
3. Congenital cataracts, blind from birth.
4. Interstitial keratitis, blind from youth.
5. Blind from congenital lues—no diagnosis given.
6. Phthisis bulbi, blind at age of seven years.
7. Gonorrheal ophthalmia, blind from birth and has congenital lues.
8. Congenital cataracts, blind since three months old.
9. Interstitial keratitis, blind since age of four years.
10. Juvenile cataracts and congenital syphilis. Blind at 16 years.
11. Chorioretinitis, blind from birth.
12. Phthisis bulbi and iridocyclitis, blind from youth.
13. Chorioretinitis, blind from infancy.
14. Interstitial keratitis, blind since 23 years (also is deaf).

15. Congenital syphilis and optic atrophy.
16. Gonorrheal and congenital syphilis, blind from birth (two patients).
17. Uveitis, blind from childhood.
18. Optic atrophy, blind at 12 years of age.
19. Uveitis, blind from infancy.
20. Phthisis bulbi, blind at eight years.
21. Interstitial keratitis, blind at 13 years.
22. Chorioretinitis, blind at four years.
23. Keratitis, blind at 13 years.

OBSERVATIONS AND RECOMMENDATIONS

Syphilis caused 15.1 per cent blindness in this group, or 106 out of 700. Syphilis is ravaging our nation and we must wage a relentless, fierce fight against this disease. It must be looked upon as a menace to personal and public health and there must be laws enacted and enforced to compel all people with the disease to receive adequate treatment whether or not they personally want it. A Federal law should cover this lax situation. Night clinics must be opened and kept open for diagnosis and treatment and a very efficient follow-up system to insure complete treatment.

Glaucoma caused 10.9 per cent blindness, or 76 out of 700. A widespread alertness for the earliest detection of glaucoma must be maintained. A system of study and observation must be instituted and developed to detect the preglaucomatous patient long before the active onset of the usual revealing signs and symptoms. Ocular tensions must be recorded on a far greater percentage of patients in both pri-

vate and clinical practice. Special subdivisions for glaucoma patients should be set aside in our clinics and adequate contact and follow-up maintained through trained medical social workers. There should be national coordination and cooperation of these special clinical groups in order to facilitate and accelerate treatment and investigation of this disease group.

Congenital Defects and Hereditary Deficiencies: This group contributed 13.9 per cent and constitutes one of the most hopeless and pitiful groups encountered. Many times generation after generation of the same defects have been handed down through as many as eight almost identical children to the family. The great majority of these are also deaf and dumb, many are feebleminded and most of them reveal endocrine disturbances. Who will solve this very vital problem?

Consanguinity contributed 2 per cent of blindness and such relations must be generally condemned. Where degeneracy exists fertile unions must be prohibited at all costs, as it is accentuated in the offspring.

Gonococcal infections in the eyes caused 4.1 per cent of blindness, chiefly in the infant and very young child. The same statements made about syphilis can also apply to gonorrhea. There must be more rigid supervision of childbirth and prophylaxis and treatment at birth. Non-medical practitioners doing obstetrics must be gradually eliminated.

Cataract must be regarded as a chronic progressive disease. A marked change in our attitude toward and a much more energetic handling of these cases will result in stopping the progress of some, inhibiting or slowing down the progress of others and in all cases the general health can be improved and the internal structures of the eye protected and kept healthy. In most cataract cases, as in dozens of other eye diseases, an early diagnosis is impossible through a small pupil. Early diagnosis is extremely important in dealing with the eye as damage is permanent in the highly specialized, delicate visual apparatus. Therefore, in most cases, a complete eye study is impossible and sadly inadequate unless the pupil be dilated.

Crossed Eyes: Every infant and young child should be watched for crossing of the eyes and if such a tendency should persist to the twelfth month an eye physician should be consulted. Early treatment after careful study should greatly reduce the number going to operation later and preserve many useful eyes that would otherwise go blind. The old advice to "let the child grow out of it" cannot be too strongly condemned.

The Eye as Revealer of Distant or General Disease: A great number of general and often serious diseases are frequently detected first by a careful and complete eye examination with enlarged pupils. A hasty or incomplete ex-

amination would fail to reveal these telling signs and be the means of the patient suffering great damage or even death. The eye physician also frequently gleans impressions of anemias, anxiety neuroses, inattention, characteristic breath odors, manner of locomotion and a thousand other defined and undefined characteristics and impressions which lead to valuable and timely suggestions to the patient and to his family physician.

On Diet Generally: Inadequate, insufficient and improper diet is contributing heavily not only to causes of blindness but to many other diseased conditions, physical debility, poor bone and muscle development, retarded mentality and lack of ambition. This is resulting from a combination of poverty, ignorance, laziness, poor heredity and the disposition of so many people today to sit around and depend upon or even insist that the government provide them and their innumerable offspring with every facility and accessory to live and multiply. Nothing can contribute so much to health as a good, well-balanced, adequate diet constantly consumed.

Eye Symptoms Generally: Eye symptoms may be purely local and readily identified with the eye or they may be referred to very distant regions strongly suggesting diseases in these localities. The onset of any symptoms calls for the services and best judgment of a

physician skilled in diagnosing and evaluating conditions of the eye and associated structures. Disease both local and general must be carefully looked for and the proper measures instituted. Over a hundred diseases affect the eye and proper treatment may lead to the application of nearly all known medical therapeutic procedures, appliances and medications. The question of glasses, while important, should be relegated to the bottom of the list where it rightfully belongs and glasses should be prescribed only after a most careful medical survey.

Increase of Old People: The relative increase in the number of old people in the population introduces new problems and greater responsibility in safeguarding the health of the eyes. Preventive medicine and public health must unravel the mysteries and apply the preventives for the ever increasing degenerative changes and diseases.

Prevention of Blindness: The eye being a highly specialized delicate organ of the body subject to over a hundred diseases and capable of being severely damaged by remote bodily ailments and subject to ravages by inadequate diet, anemias, endocrine disease and a thousand other factors, its proper care is a grave medical problem to be conducted by members of the medical profession. The prevention of blindness is a formidable task of preventive medicine. Education of the public is the great-

est and most pressing need. Protective measures must be instituted before birth of the child and in some instances even before marriage and reproduction be permitted. Trained medical social workers must be provided. Sight-saving classes in schools, while laudable, are evidence of failure effectively to prevent blindness.

Hasty School Eye Examinations: Realizing that an eye can see 20/20 and still contain revelations of local or general disease which may lead to blindness or even death, hasty, casual visual testing is to be condemned. Rather, have every child's eyes examined by the family's eye physician before beginning school and at intervals thereafter as directed by the eye physician.

Public Education: The public must be informed and constantly reminded that the eye is a very delicate organ, an inseparable part of the body the same as the heart, brain, lungs, kidneys or any other vital organ; that it is subject to a very great number of diseases; that eye symptoms may signify a need of glasses, but far oftener it means eye disease or general body disease for which glasses can do little or nothing. Glasses represent only one small part of eye care when the problem is viewed intelligently and scientifically. The eye needs the very best of medical services and attention and its proper care must be harmonized with the entire body mechanism.

Hospitals and Clinics: Not enough hospitals and few clinics in the United States have adequate equipment and facilities with personnel properly to care for eyes. There is not in Louisiana today a single eye clinic properly equipped to do first quality eye work. Some of our so-called best hospitals through ignorance and indifference fail even now to provide the facilities and specially trained personnel necessary to perform safely operations and to conduct other procedures for eye patients. These hospitals should be removed from the accredited list unless they remedy both their attitude and facilities. Next to life itself, human vision is our most cherished possession. Eye clinics should be established in all our new hospital units over the state to care for the indigent only.

Training Eye Physicians and Surgeons: There must be a great increase in the number of first class postgraduate schools for training eye physicians in the United States. These schools must be under the direct supervision of the medical universities and must be so organized as to be thorough, adequate and uniform. These schools must have complete equipment and meet all requirements of a board of review. Candidates who have spent two years in a general hospital or a few years in general practice of medicine after obtaining a bachelor's degree and the degree of doctor of medicine are to be

favored. No candidate over 40 years of age should be admitted.

Teaching the Medical Student: Even while taking the regular medical course of four years the student should be taught with greater emphasis than heretofore the great importance the eye should, and will in the future, play in the diagnosis, treatment and prognosis of local and general diseases and in the great body of ill-defined degenerative changes. He must be impressed with the delicacy, complexity and vulnerability of this open book to greater search and knowledge in benefit to his patients. He must get the lasting impression that the eye is intimately a part of the whole body reacting to disease and body ailments the same as any other organ or region of the body.

Nurses, Teachers and Social Workers: The general nurse, public health nurse, industrial nurse, school teacher, social worker and medical social service worker should be more carefully and thoroughly instructed in matters pertaining to the eye. They must realize that the eye is a highly complex organ richly supplied with nerves and blood, subject to many dozens of diseases which may lead to great handicaps, or death. They must realize that eye symptoms call for medical investigations and meticulous search by the eye physician for local and general disease as the first step in proper eye care.

Insurance Companies and Employers: All such persons and agencies must come to realize

that a thorough health examination cannot but include a careful external and internal examination of the eyes by a competent eye physician, who alone is competent to diagnose, correlate, treat and prognose the many local and general diseases affecting the eye. An enlarged pupil will so frequently reveal otherwise hidden constitutional disease, early cataracts, cardiovascular disease, renal disease, endocrine and metabolic diseases, systemic toxic states and general degenerative changes, together with many other conditions. Many of us are daily shocked when we look into the fundi of persons occupying positions of grave human and financial responsibility who have that day or recently been pronounced in perfect health by the insurance or employment examiner in all honesty and completeness. The future of medicine will bear out the significance of this paragraph.

Titles and Identifying Names: The public has a moral, legal and ethical, as well as humane right, to know and tell at once by the title whether a man or woman serving the eyes is a doctor of medicine or is one of the non-medical practitioners. The present confusion must be clarified in the interest of human patients and human eyes as well as in the interest of common honesty and progress. The initiative in this matter would be a graceful gesture on the part of those who have erroneously assumed titles to which their claim cannot justly be defended.

Glasses:It is to be deplored that close to 50 per cent of the glasses sold in this section of the country are second and third grade glasses, most of which are unfit for human use. We must place the control of glasses in the same law as the Pure Food and Drug Act, and provide for the exact, clear and permanent labeling of the quality of all glasses sold to individuals and the buyer must know the quality actually purchased. For falsifying in these matters criminal penalties of great severity must be provided. Facilities for free testing of lens quality must be provided. Most so-called smoked glasses are horribly distorted and provide potential damage to the eyes and contribute to the number of automobile and other serious accidents and deaths annually. All such cheap imperfect glasses must be excluded entirely from any possible sale to public or person. Perfect ground, smoked or tinted glasses made by ethical houses are available at small cost and will become cheaper. Too many people in our country wear glasses of inferior quality. Only first quality glasses should ever be sold.

Commercializing the Eye: Radio, magazine, billboard and showcase exploitation of the human eye has about reached its ultimate climax. It is time that an informed and aroused public regulate or eliminate the commercialization and exploitation of a human organ so vital to life and happiness.

Manufacturers and Distributors of Glasses:

There are highly ethical, honest, dependable, co-operative and progressive manufacturers and distributors who are doing all they can to elevate the general standards in merchandising eye glasses. Some of these present constructive pages in our large magazines in a laudable effort better to serve our population. These concerns deserve great praise and increased prosperity. Their leadership must be strengthened and their morale supported. The dishonest dealers and manufacturers who reap fortunes over blind human bodies must be ruthlessly destroyed.

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